Scenario 2: Observed data, with measurement error (sexual behaviour measure is 75% sensitive and 80% specific)

Mantel-Haenszel adjusted relative risk for tables 7 and 8 = 1.82 (95% CI: 1.34 to 2.48). To complete tables 7 and 8, 25% (= 100%−75%) of individuals in each exposure/disease category in table 7 (high risk sexual behaviours) were reclassified as having low risk behaviours transferred to the corresponding exposure/disease category in table 8. At the same time, 20% (= 100%−80%) of those in each exposure/disease category in table 8 (low risk sexual behaviours) were reclassified as having high risk behaviours, and transferred to the corresponding exposure/disease category in table 7.

Table 6 ''Observed'' unadjusted association among all women*

	HIV infected	HIV uninfected	Total
Use of hormonal contraceptives	114	1791	1905
No use of hormonal contraceptives	66	2304	2370

Unadjusted relative risk (RR) = (114/1905)/(66/2370) = 2.14 (95% CI: 1.60 to 2.89).
*Note that this example presumes that the exposure and outcome are measured perfectly, and the only errors are in the measurement of sexual behaviour; thus, the ''true'' and ''observed'' unadjusted tables (3 and 6, respectively), and the resulting unadjusted associations, are identical.

Table 7 ''Observed'' association among women with high risk sexual behaviours

	HIV infected	HIV uninfected	Total
Use of hormonal contraceptives	76	853	929
No use of hormonal contraceptives	26	585	611

Stratum specific relative risk (RR) for women with high risk sexual behaviours = (76/929)/(26/611) = 1.92 (95% CI: 1.25 to 2.97).

Table 8 ''Observed'' association among women with low risk sexual behaviours

	HIV infected	HIV uninfected	Total
Use of hormonal contraceptives	38	938	976
No use of hormonal contraceptives	40	1719	1759

Stratum specific relative risk (RR) for women with low risk sexual behaviours = (38/976)/(40/1759) = 1.71 (95% CI: 1.11 to 2.65).

ECHO

Host factors influence *C trachomatis* infection

Please visit the *Sexually Transmitted Infections* website [www.stijournal.com] for a link to the full text of this article.

Future effort should focus on host factors to explain variation in disease course in *Chlamydia trachomatis* infection, say researchers studying the infection in a mouse model. Host factors, not virulence factors, probably determine whether human infection with the commonest strain is symptomatic or not, they say.

The researchers used isolates of *C trachomatis* serovar E from infections in women to infect female mice of a strain used as a standard model of human female genital tract infection. Two isolates were from symptomatic infections in the women and their partners and two were from asymptomatic infections. The researchers recorded progress of infection over 56 days by looking for *C trachomatis* by culture and PCR in vaginal swabs taken at intervals and dissected tissues from the genitourinary tract at 14 and 56 days. They measured inflammation by leucocyte esterase activity. Incidence and length of infection were similar among all isolates and between the isolate pairs. So were inflammation of the lower genital tract and progress of infection in the upper genital tract. Thus virulence factors within this, the commonest *C trachomatis* serovar, do not influence the course of infection.

The results tie in with a recent epidemiological study of *C trachomatis* infection in over 1100 women that concluded that asymptomatic or asymptomatic infection is not governed by serovar.

Earlier epidemiological evidence had been inconclusive, and the researchers felt that it would be sensible to corroborate findings with an experimental model that can reliably distinguish different human isolates.

▲ Lyons JM, *et al. Journal of Clinical Pathology* 2004;**57**:657–659.